

STN

Search History (HCAPLUS, USPAT2, INSPEC, JAPIO) 10/772,444
1/19/05

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(FILE 'HOME' ENTERED AT 12:35:29 ON 19 JAN 2005)

FILE 'USPATFULL, USPAT2' ENTERED AT 12:35:40 ON 19 JAN 2005

L1 22597 S (FREE(W)STAND?)
L2 3456 S (PLURAL? OR MULTIP?) (8A) (FACET#)
L3 5335 S (DIAMOND(4A)LAYER#)
L4 11667 S (UNIFORM?) (6A) (DEPTH#)
L5 231083 S (MOLD#)
L6 5669 S (DEPOSIT?) (8A) (BACK? (6A) LAYER#)
L7 45014 S (REMOV?) (8A) (MOLD)
L8 718998 S (CARBON)
L9 236795 S (PLASMA)
L10 1 S L1 AND L2 AND L3 AND L4 AND L5 AND L6 AND L7 AND L8 AND
L11 1 S L1 AND L2 AND L3 AND L5 AND L6

FILE 'HCAPLUS, INSPEC, JAPIO, USPATFULL, USPAT2' ENTERED AT 12:39:12 ON 19 JAN 2005

L12 1 S L10
L13 30449 S (FREE(W)STAND?)
L14 3847 S (PLURAL? OR MULTIP?) (8A) (FACET#)
L15 11576 S (DIAMOND(4A)LAYER#)
L16 15660 S (UNIFORM?) (6A) (DEPTH#)
L17 515213 S (MOLD#)
L18 6722 S (DEPOSIT?) (8A) (BACK? (6A) LAYER#)
L19 55525 S (REMOV?) (8A) (MOLD)
L20 2121439 S (CARBON)
L21 1359905 S (PLASMA)
L22 1 S L12 AND L13 AND L14 AND L15 AND L16 AND L17 AND L18 AND L19 A
L23 1 S L13 AND L14 AND L15 AND L16 AND L17 AND L18 AND L19 AND L20 A
L24 2 S L13 AND L14 AND L15

=> d l24 1-2 abs,bib

L24 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN

AB The invention is directed in one aspect to methods of making **free-standing**, internally-supported, three-dimensional objects having an outer surface comprising a **plurality** of intersecting **facets** wherein a sub-set of the intersecting facets have a **diamond layer** of substantially uniform thickness. The **diamond layer** may be formed by chemical vapor deposition (CVD) over the surface of a substrate that was fabricated to form a mold defining the sub-set of intersecting facets. A backing layer may be formed over at least a portion of the exposed **diamond layer** to enhance the rigidity of the layer when the substrate is removed.

AN 2004:654706 HCAPLUS

DN 141:178252

TI Method of making **free-standing**, internally-supported, three-dimensional diamond structures

IN Mearini, Gerald T.; Dayton, James A.

PA USA

SO U.S. Pat. Appl. Publ., 5 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---------------|------|----------|-----------------|----------|
| PI | US 2004154526 | A1 | 20040812 | US 2004-772444 | 20040206 |
| | WO 2004072319 | A2 | 20040826 | WO 2004-US3518 | 20040206 |

W: AE, AE, AG, AL, AL, AM, AM, AM, AT, AT, AU, AZ, AZ, BA, BB, BG,
 BG, BR, BR, BW, BY, BY, BZ, BZ, CA, CH, CN, CN, CO, CO, CR, CR,
 CU, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EC, EE, EE, EG, ES,
 ES, FI, FI, GB, GD, GE, GE, GH, GM, HR, HR, HU, HU, ID, IL, IN,
 IS, JP, JP, KE, KE, KG, KG, KP, KP, KR, KR, KZ, KZ, KZ, LC,
 LK, LR, LS, LS, LT, LU, LV, MA, MD, MD, MG, MK, MN, MW, MX, MX,
 MZ, MZ, NA, NI
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE,
 BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU,
 MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,
 GQ, GW, ML, MR, NE, SN, TD, TG, BF, BJ, CF, CG, CI, CM, GA, GN,
 GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2003-445237P P 20030206
 US 2003-494089P P 20030812
 US 2003-494095P P 20030812

L24 ANSWER 2 OF 2 USPATFULL on STN

AB The present invention is directed in one aspect to methods of making
free-standing, internally-supported, three-dimensional
 objects having an outer surface comprising a **plurality** of
 intersecting **facets** wherein a sub-set of the intersecting
 facets have a **diamond layer** of substantially uniform
 thickness. The **diamond layer** may be formed by
 chemical vapor deposition (CVD) over the surface of a substrate that has
 been fabricated to form a mold defining the sub-set of intersecting
 facets. A backing layer may be formed over at least a portion of the
 exposed **diamond layer** to enhance the rigidity of the
 layer when the substrate is removed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT

AN 2004:200643 USPATFULL

TI **Free-standing** diamond structures and methods

IN Mearini, Gerald T., Shaker Heights, OH UNITED STATES
 Dayton, James A., JR., Cleveland, OH, UNITED STATES

PI US 2004154526 A1 20040812

AI US 2004-772444 A1 20040206

PRAI US 2003-445237P 20030206 (60)

US 2003-494089P 20030812 (60)

US 2003-494095P 20030812 (60)

DT Utility

FS APPLICATION

LREP D. JOSEPH ENGLISH, Duane Morris LLP, Suite 770, 1667 K Street, N.W.,
 Washington, DC, 20006

CLMN Number of Claims: 34

ECL Exemplary Claim: 1

DRWN 1 Drawing Page(s)

LN.CNT 284

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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L10 1 L1 AND L2 AND L3 AND L4 AND L5 AND L6 AND L7 AND L8 AND
L9

=> d l10 abs,bib

L10 ANSWER 1 OF 1 USPATFULL on STN

AB The present invention is directed in one aspect to methods of making **free-standing**, internally-supported, three-dimensional objects having an outer surface comprising a **plurality** of intersecting **facets** wherein a sub-set of the intersecting facets have a **diamond layer** of substantially uniform thickness. The **diamond layer** may be formed by chemical vapor deposition (CVD) over the surface of a substrate that has been fabricated to form a **mold** defining the sub-set of intersecting facets. A backing layer may be formed over at least a portion of the exposed **diamond layer** to enhance the rigidity of the layer when the substrate is removed.

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TI **Free-standing** diamond structures and methods
IN Mearini, Gerald T., Shaker Heights, OH, UNITED STATES
Dayton, James A., JR., Cleveland, OH, UNITED STATES
PI US 2004154526 A1 20040812
AI US 2004-772444 A1 20040206 (10)
PRAI US 2003-445237P 20030206 (60)
US 2003-494089P 20030812 (60)
US 2003-494095P 20030812 (60)

DT Utility

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